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Bears, Ostriches, and Specialized Grazing: Putting Guarding Dogs to Work

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Over a decade ago the senior author made a presentation about livestock guarding dogs to a group of sheep producers in Washington, apple country. He described how dogs could be bonded to sheep if raised with them from puppyhood. At that time the use of dogs to protect livestock was in its infancy in this country, but the prospects for more widespread use and success looked promising. When speculating about how dogs might be used in the future, the presenter commented that the possibilities for using guarding dogs were probably limited most by peoples' imagination. He said, for example, dogs could probably be used to keep deer (Odocoileus spp.) out of apple orchards (not an uncommon wildlife damage problem in that area) and that all one had to do was raise a dog from puppyhood with a basket of apples! Although the example was facetious, the idea of using guarding dogs in a variety of situations was real.

Since 1977 when research in the U.S. was first directed at examining dogs as a method of protecting sheep from predation, the use of livestock guarding dogs has grown tremendously throughout this country and Canada. Each year the Animal Damage Control (ADC) Livestock Guarding Dog Program responds to hundreds of inquiries from people in the U.S. and many foreign countries about using dogs. A conservative estimate of the number of people who have

used or who are using guarding dogs exceeds several thousand and includes individuals in virtually every one of the 48 continental states, and the number is still growing. Dogs have been used in a wide array of conditions, and although their effectiveness has varied widely, there appear to be few constraints on where a good dog will provide some benefit.

In this paper, we highlight three examples of using guarding dogs that, for various reasons, are somewhat different from the typical sheep-predator scenario.

Grizzly Bears

Although not widespread, grizzly bears (*Ursus arctos* horribilis) inhabit specific portions of several Rocky Mountain states, most notably, Montana, Idaho, and Wyoming. In areas where traditional sheep grazing and grizzly habitat coincide, conflicts between bears and sheep occur. Since grizzly bears are listed as endangered under the Threatened and Endangered Species Act, management favors the bears. In a number of these areas of conflict sheep grazing has been discontinued for various reasons, not the least of which is predation by bears on sheep. In general, there hasn't been a way to successfully resolve this problem without adversely affecting the bears; therefore, the sheep have been forced

from the area

Green and Woodruff (1989) described encounters between livestock guarding dogs and bears, some of which were grizzlies, that were recorded during their research with dogs. The outcome of the encounters, largely reported by individual sheep producers, indicated that livestock guarding dogs were capable of preventing or reducing predation by bears on sheep, although no specific tests were undertaken to specifically examine bear-dog interactions.

During summer 1992, ADC and the Montana Wool Growers Association cooperated in a demonstration of the usefulness of guarding dogs for protecting sheep from predation by bears in a wilderness area just north of Yellowstone National Park. A long-time sheep producer had used the allotment in the Absoroka Mountains for decades and in recent years had seen an increase in grizzly and black bear (Ursus americanus) attacks on his sheep. Because of the wilderness designation and the protected status of grizzly bears, options for controlling predation on the sheep were severely limited. In 1990 and 1991, one of the authors (Wick) herded the sheep on the allotment and was therefore familiar with the sheep, the terrain, and the habits of the predators. He was also the herder during the 1992 demonstration when guarding dogs were added to the operation.

Two Akbash Dogs, a 4-year-old male and a 10-month-old female, were brought to Montana about 2 months prior to the sheep going to the summer range. Both dogs had been reared with sheep and had experience with sheep on range conditions. The dogs were introduced to the sheep on the home ranch pastures and then were trucked to the

sheep after they had trailed to the summer range. Aside from a few minor problems with the younger dog being overly attentive to the sheep (keeping them bunched) during the early weeks of the project, the final results of the 7-week wilderness experience were quite positive.

The herder documented 10 bear-sheep encounters during the project during which 4 sheep were killed. All encounters were at night so it was difficult to identify the species of bear responsible, but most were probably black bears. The dogs were present at each encounter and were generally aggressive to the bears. In 5 of the encounters, the bear was chased out of the sheep before it could make a kill by the combined efforts of the herder and the dogs. The herder used a spotlight and sometimes fired a handgun to help frighten the bear away. In 3 encounters, the dogs alone frightened the bear away before it could make a kill. In the 2 encounters where sheep were killed, the dogs appeared to be alone dealing with separate bears. Although coyotes (Canis latrans) were frequently heard and seen around the sheep, no sheep were known to have been killed by coyotes during the project.

A critical component of keeping the sheep relatively safe from predation in this project was the attentiveness of the herder. He camped near the sheep each night and assisted the dogs in frightening bears away. The dogs appeared to rely on the "back-up" support from the herder, and this seemed to heighten their confidence in being aggressive to an intruding bear. The conclusion of this first-year demonstration was that guarding dogs were a useful component of this range sheep operation in bear country. There are plans to repeat the project next summer.

Big Birds

Over the past several years a new agricultural industry has emerged in the U.S., raising ratites, large flightless birds such as ostrich *Strutio canless*, emu (*Dromaius novaehollandiae*), and rhea (*Rhea americana*). Producers realize profit from this endeavor by selling breeding stock (up to \$30,000 and higher for a pair of ostriches), fertile eggs (about \$1,000 for a fertile ostrich egg), feathers, hide (ostrich leather boots), oil (used in skin creams), and meat (similar to beef but lower in calories and cholesterol).

Like raising other animals, raising big birds has its problems, predators being one. A recent article in the Fort Worth, Texas Star Telegram told of two mixed-breed shepherd dogs digging under two 6-foot-high fences to enter a pen holding five rheas valued at over \$3,000 each. One of the birds the dogs killed had laid 55 eggs the previous summer earning the rancher \$6,000 in chick sales. In addition to dogs, coyotes and other typical predators of livestock are a threat to the birds. Young birds are relatively easy prey for a coyote, and adult birds have been killed after being run into fences by attacking canids. Two-legged predators can be a more serious threat to the birds than an animal looking for a meal. Given the high value of chicks and eggs, theft by people is a significant concern to big bird producers.

A number of ratite producers have turned to livestock guarding dogs to protect their birds. One producer has supplied over 80 guarding dogs to bird raisers, and he reports that success has been almost universal. The recommended procedure is to place two pups with the birds. The pups tend to play with each other rather than the birds, and the

early and continued socialization between dogs and birds develops a bond similar to that observed between guarding dogs and sheep.

Specialized Grazing

While on some quarters there is a campaign to remove livestock from public lands, on others there's the growing realization that wise grazing of livestock can be a powerful tool for enhancing the vegetative characteristics of rangeland. Livestock guarding dogs have found their way into the later situation as the following examples illustrate.

The state of Colorado enacted a law several years ago requiring landowners to actively control noxious weeds on their land, and if they failed to do so, the county could effect the control and charge the landowner appropriately. Several hunting clubs in the northern part of the state have 1,200 acres of land adjacent to the Platte River where leafy spurge (here is *esula*), an aggressive noxious weed, was invading. Using herbicide to control the plant is costly, about \$90/acre, and it must be applied twice a year. Because of the proximity to the river, the chemical must be applied by hand, an expensive and labor intensive technique. Instead of herbicide, the clubs opted to use grazing by sheep to control the plant. A sheep producer pays the clubs \$1 per year to graze his sheep on their land from April to September. The sheep, accompanied by a livestock guarding dog, eat spurge along with other vegetation.

Everyone is a winner in this scenario. The weed is being controlled; the clubs are saving money and are happy to be using an environmentally friendly method; the sheep

producer is getting a bargain on good feed; and the dog protects the sheep from predators. The sheep producer will begin his fourth year on this project which he says could not be done without using guarding dogs. As he put it, "I can't see any sheepman putting up with predator problems when he could use dogs."

Grassland acreage in parts of Alberta, Canada is decreasing about 5% per year due to encroachment by woody vegetation. An innovative sheep producer in that province has found a way to use sheep to curb the woody takeover and even reclaim grassland. He uses portable electric fencing to hold a band of sheep (2,500 ewes and lambs) on specific bedground areas for three consecutive nights. He selects bedgrounds where aspen (ft pulus Iremuloides) and poplar (Populus spp.) trees, primary woody invaders, are beginning to resprout. The action of sheep grazing, trampling, and excrement hinders the trees and favors grass production. Two guarding dogs, one inside the fence, and one outside, help keep coyotes and bears away. The dogs also accompany the sheep in their daytime grazing. Although predation on the sheep has been historically low (up to eight losses per year), since using dogs the past two years, predators haven't killed any sheep. The herder stays with the sheep constantly and uses shooting and coyote getters to take any coyotes that threaten the band. The use of dogs has allowed the herder to focus on the range management aspects of the sheep operation, reclaiming grassland, and not worry as much about predators. The success of this endeavor has attracted the attention of provincial foresters and may be a boon to the livestock industry, land managers, and others in that province.

Livestock guarding dogs are also filling a unique role in British Columbia, Canada. In a project that began several years ago, sheep are being used to graze vegetation that is competing with young and growing conifer trees on reforestation sites. Again, the grazing is a preferred alternative to using herbicides. The sheep are contracted and trucked from Alberta, often at a good profit for the sheep producer. Guarding dogs (2 or 3 per group of sheep) and a herder accompany the sheep on the grazing allotments where bears (both black and grizzly) are the primary predators. Coyotes and wolves are also occasional predators of the sheep. The expectation is that about 25,000 sheep will be trucked from Alberta to British Columbia next summer to participate in the forest grazing. According to one of the herders in the project, "guarding dogs make the system practical."

We haven't yet heard of anyone who has tried raising a guarding dog pup with a basket of apples, but it's obvious that dogs are finding their way into a broadening array of situations where predation needs to be managed. It's pleasing to see that "man's best friend" continues to be just that.

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